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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/942,762	08/31/2001	Takeshi Kamata	q66058	9200

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EXAMINER

MCHENRY, KEVIN L

ART UNIT	PAPER NUMBER
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1725

DATE MAILED: 12/18/2002

7

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/942,762

Applicant(s)

KAMATA, TAKESHI

Examiner

Kevin L McHenry

Art Unit

1725

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 December 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: .

Drawings

1. Figures 4 and 5 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

2. The disclosure is objected to because of the following informalities:
On page 9, line 23, portion is misspelled as "potion".
Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:
The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. Claims 1-5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites a molten metal infiltrating method of a linear material in the preamble and then lists a solitary step of first coating the material with a flux. This language is indefinite because it is unclear if the coating of flux is the only step and if molten metal infiltration follows the flux coating step. For examination purposes the

examiner interpreted this language to mean "...previously is coated with a flux before the material is infiltrated with a molten metal."

Claim 2 recites the limitation "the molten metal" in line 1 of claim 2. There is insufficient antecedent basis for this limitation in the claim. For examination purposes the examiner interpreted this language to mean "a molten metal".

Claim 2 uses the language "a bath container" in line 5 of claim 2. This language is indefinite because a bath container was already cited in the previous line and therefore it is unclear if this limitation in line 5 is referring the to same bath container or a new, separate bath container. For examination purposes the examiner interpreted this language to mean "the bath container".

Claim 2 recites the limitation "the vicinity" in line 11 of claim 2. There is insufficient antecedent basis for this limitation in the claim. For examination purposes the examiner interpreted this language to mean "a vicinity".

Claim 5 recites the limitation "the vicinity" in line 6 of claim 5. There is insufficient antecedent basis for this limitation in the claim. For examination purposes the examiner interpreted this language to mean "a vicinity".

Claim Rejections - 35 USC § 102

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 2, and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Kornmann et al. (U.S.P. 4,169,426).

Kornmann et al. teach a molten metal infiltrating method in which a wire is

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continuously coated with a flux by a flux coating reservoir that is provided in the vicinity of an inlet seal to a molten metal infiltrating chamber. The wire is drawn upward through an inlet seal into a molten metal bath container that is pressurized by the melt's own hydrostatic pressure and by a slight overpressure of gas 32 introduced into a tubular element that surrounds the outlet seal of the bath container that the wire is drawn through (see U.S.P. 4,169,426; particularly Figure 1; column 2, lines 3-31, 51-68; column 3, lines 62; column 6, lines 50-64).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1, 2, and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 61017351.

JP 61017351 teaches a composite wire manufacturing process in which a wire is continuously pretreated to remove stains and oxide by a reservoir that is provided in the vicinity of an inlet seal to a molten metal infiltrating chamber. The wire is drawn upward through an inlet seal into a molten metal bath container that is pressurized and exits through an outlet seal that is provided in a top part of the bath container (see JP 61017351; particularly abstract and Figure).

JP 61017351 does not teach the use of a flux reservoir to continuously coat the wire before infiltration.

Kornmann et al. teach a continuous wire infiltration method in which a pretreatment system is used to clean the wire before infiltration. This pretreatment includes cleaning and fluxing the wire to provide good wetting and adherence to the wire by the melt during infiltration (see U.S.P. 4,169,426; particularly Figure 1; column 2, lines 3-31, 51-68; column 3, lines 62; column 6, lines 50-64).

It would have been obvious to one of ordinary skill in the art at the time that the applicant's invention was made to have modified the process of JP 61017351 by the teachings of Kornmann et al. One would have been motivated to do so in order to use a wire pretreatment that included flux to provide good wetting and adherence to the wire by the melt during infiltration, as Kornmann et al. teach.

Allowable Subject Matter

8. The following is a statement of reasons for the indication of allowable subject matter: the prior art of record does not teach or suggest a molten metal infiltrating method for infiltrating a linear carbon fiber material that has been previously coated with a lithium chloride or sodium chloride flux.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Deegan et al. (U.S.P. 6,037,011), Blucher (U.S.P. 6,035,925),

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Carrara (U.S.P. 3,924,036), Schultz (U.S.P. 2,072,060), Rocher et al. (U.S.P. 4,659,593), Bartsch (U.S.P. 4,321,289), Beutler et al. (U.S.P. 3,720,257), Dobo (U.S.P. 3,842,896), and JP 58144441 are cited of interest for illustrating the state of the art in making composite elements.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin L McHenry whose telephone number is (703) 305-9626. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas G Dunn can be reached on (703) 308-3318. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



December 13, 2002



M. ALEXANDRA ELVE
PRIMARY EXAMINER